



Atty. Docket No. RSW920010199US1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of James C. Fletcher et al.

Serial Nbr: 10/047,811

Filed: January 15, 2002

For: Provisioning Aggregated Services in a Distributed Computing Environment

Art Unit: 2143

Examiner: Jeffrey C. Pwu

Mail Stop Appeal Brief - Patents
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Marcia L. Doubet
(Signature of person mailing paper or fee)



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**APPEAL BRIEF IN SUPPORT OF
APPEAL FROM THE PRIMARY EXAMINER TO THE BOARD OF APPEALS**

Sir:

Appellants herewith submit an Appeal Brief in support of the appeal to the Board of Appeals from the decision dated August 11, 2005 of the Primary Examiner finally rejecting all Claims 1 - 5 and 7 - 20.

The appeal brief fee of \$500.00 is:

- ☐ Enclosed.
☐ Not required. (Fee paid in prior appeal.)
☒ Charged to Deposit Account No. 09/0461. A duplicate copy of this sheet is enclosed.

Oral Hearing is:

- ☒ Not requested.
☐ Requested. See first paragraph of accompanying appeal brief.

Date: March 10, 2006

Respectfully submitted,

By Marcia L. Doubet
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Attorney Docket RSW920010199US1

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APPELLANTS' BRIEF ON APPEAL

Mail Stop Appeal Brief - Patents
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Alexandria, VA 22313-1450

Sir:

This is an Appeal seeking reversal of the decision of the Primary Examiner, finally rejecting all current claims of the subject patent application.

1) REAL PARTY IN INTEREST

The real party in interest is the Assignee, International Business Machines Corporation ("IBM").

2) RELATED APPEALS AND INTERFERENCES

Appellants, the Appellants' legal representative, and the assignee, have no personal knowledge of any other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

3) STATUS OF CLAIMS

Claims 1 - 5 and 7 - 20 stand rejected. Claim 6 has been cancelled from the application without prejudice. Claims 1 - 5 and 7 - 20 are under appeal.

4) STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on October 10, 2005, responsive to the Final Rejection mailed on August 11, 2005. This amendment has been reviewed by the Examiner, and has been denied entry.

5) SUMMARY OF CLAIMED SUBJECT MATTER

1. Appellants' independent Claims 1, 13, and 14 specify elements of "obtaining credentials of a user who requests to access an aggregated service" (Claim 1, line 3, emphasis added); "locating, in a network-accessible registry, a service description document specifying a provisioning interface for the aggregated service, the aggregated service comprising an

aggregation of a plurality of sub-services and the provisioning interface specifying how to invoke identity functions of the aggregated service” (Claim 1, lines 4 - 7, emphasis added); “analyzing the obtained credentials by invoking one or more of the identity functions, according to the specification thereof in the provisioning interface, to determine whether the user is authenticated for, and/or is authorized for, accessing the aggregated service” (Claim 1, lines 8 - 10, emphasis added); and “allowing the user to access the aggregated service only if the analyzing step has a successful result” (Claim 1, lines 11 - 12).

2. In other words, there is a service, referred to as an “aggregated service”, that comprises an aggregation of a plurality of sub-services (Specification, p. 11, lines 1 - 3; p. 12, lines 8 - 9), and a service description document in a network-accessible registry specifies a provisioning interface for this aggregated service (Specification, p. 17, lines 6 - 13; p. 21, lines 15 - 20; **Figs. 5A - 5E**). This provisioning interface, in turn, specifies how to invoke identity functions (*e.g.*, authentication and authorization functions) of the aggregated service (Specification, p. 28, lines 6 - 7; p. 30, lines 15 - 17; **Fig. 6**). As one example, an aggregated e-mail service might comprise a first sub-service used to establish e-mail accounts for users and a second sub-service with which the users can access their e-mail messages. Specification, p. 20, lines 11 - 20.

3. Dependent Claim 2 specifies “wherein an implementation of each of the identify [note, should say “identity”] functions of the aggregated service is provided by at least one of the sub-services” (Claim 2, lines 1 - 3, emphasis added). For example, one sub-service may provide an authentication function, while another sub-service provides an authorization function.

Specification, p. 23, lines 3 - 9 and lines 15 - 17 discuss a scenario where a sub-service “ServiceABC” provides an implementation of an identity function (a function that can be used, in this example, to determine what provisioning system stores information about the user), where the information obtained from this (sub-)service can then be passed to other (sub-)services. See also p. 25, lines 11 - 15, which discuss a “remote service” (*i.e.*, a remote sub-service) which can authenticate the requester; this authentication comprises an identity function.

4. Dependent Claim 3 specifies an element of “at least one of the sub-services [of which the aggregated service is comprised] has a local provisioning interface, the local provisioning interface specified in a corresponding service description document and comprising a specification of how to invoke one or more identity functions of the sub-service” (Claim 3, lines 2 - 4, emphasis added). That is, there is an additional service description document, for this at least one sub-service. Specification, p. 21, lines 2 - 3 discusses documents that define operations provided by the sub-services. The local provisioning interface can be used to control access to the sub-services (Claim 3, lines 7 - 13).

5. Dependent Claim 7 specifies an element of “programmatically relaying [identity information obtained from invoking identity function(s)] among at least two of the sub-services of the aggregated service” (Claim 7, lines 1 - 3, emphasis added). Specification, p. 9, lines 2 - 6; p. 29, lines 15 - 17.

6. Dependent Claim 18 specifies elements of “at least two of the sub-services each have

associated therewith an identity system for access control thereto” (Claim 18, lines 2 - 3, emphasis added; Specification, p. 23, lines 3 - 9 and 15 - 17; p. 25, lines 11 - 15; **Block 650** of **Fig. 6** and associated text on p. 31, lines 11 - 13); “at least two of the associated identity systems are heterogeneous” (Claim 18, line 4, emphasis added; Specification, p. 7, lines 11 - 12; p. 11, lines 4 - 7; p. 32, line 20); and “at least one selected one of the identity functions of the aggregated service enables dynamically joining at least two of the heterogeneous identity systems” (Claim 18, lines 5 - 6, emphasis added; Specification, p. 11, lines 4 - 5; p. 21, line 15; p. 32, line 20).

7. Dependent Claim 19 specifies an element of “[an] identity function, upon invocation, identifies the identity system that stores information pertaining to users of the sub-service with which that identity system is associated” (Claim 19, lines 1 - 3, emphasis added). An example is provided whereby the provisioning interface of a sub-service “ServiceABC” is queried to determine the identifier of its provisioning service, and that identifier is returned from a service invocation. See **Fig. 5A**, elements **502** and **504**, and the corresponding text on p. 23, lines 3 - 17 (and in particular, lines 5 - 7 and 14 - 17).

8. Dependent Claim 20 specifies an element of “the dynamic joining [of heterogeneous identity systems] is enabled by relaying the identification of the identity system [where this identification is obtained by invoking an identity function] among the dynamically-joined identity systems” (Claim 20, lines 1 - 2, emphasis added). Specification, p. 9, lines 2 - 5; p. 32, lines 19 - 20; Abstract, lines 6 - 7. See also the “provID” parameter of the request messages

described at elements **506, 510, 514, 518, 522, 526, and 530** of **Fig. 5**, where this parameter is described (Specification, p. 23, lines 13 - 17) as one way of relaying the identifier obtained from the response message at **504** on invocations of request messages.

9. Independent Claims 13 - 14 include means plus function terminology (although in the unentered amendment dated October 10, 2005, the “means” terminology was removed from independent Claim 14). Structure, material, or acts supporting this terminology are described in Appellants’ specification, as will now be described.

10. With regard to the “means for obtaining credentials” element of independent Claims 13 and 14, the text on p. 29, lines 8 - 12 describes obtaining a user identifier and password, or other types of user credentials; see also **Block 600** of **Fig. 6**. For the “means for locating” element of independent Claims 13 and 14, see p. 17, lines 9 - 13, stating that a Web Services Description Language (“WSDL”) document (an example of which is provided by the WSDL fragment in **Figs. 5A - 5E**) representing a provisioning interface can be registered in a registry, and can then be “located and bound to” at run time. For the “means for analyzing” element of independent Claims 13 and 14, see p. 29, lines 8 - 14, which discuss passing a user identifier and password to an authentication service; see also **Block 650** of **Fig. 6** and its corresponding text on p. 31, lines 12 - 13, which discuss using an operation-specific authentication service for a particular operation of the aggregated service, and **Block 670** of **Fig. 6** and its corresponding text on p. 31, lines 17 - 18 and p. 32, lines 1 - 2, which discuss determining the user’s operation-specific authorization. With regard to the “means for allowing” element of independent Claims 13 and

14, see **Blocks 620 and 640 of Fig. 6** and their corresponding text on p. 30, lines 19 - 20 and p. 31, lines 4 - 6; see also the text on p. 32, lines 3 - 9, discussing a scenario where an error message may be generated if the user is not authorized for performing a particular operation in a flow.

6) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

11. The ground of rejection presented for review is whether Claims 1 - 5 and 7 - 20 are anticipated under 35 U.S.C. §102(e) by U. S. Patent 6,839,680 to Liu et al. (hereinafter, "Liu").

7) ARGUMENT

12. Paragraph 4 of the Office Action dated August 11, 2005 (hereinafter, "the Office Action") states that Claims 1 - 5 and 7 - 20 are rejected under 35 U.S.C. §102(e) as being anticipated by U. S. Patent 6,839,680 to Liu. Of these claims, the independent claims are 1, 13, and 14.

13. Appellants respectfully submit that a *prima facie* case of anticipation under 35 U.S.C. §102 has not been made out as to their Claims 1 - 5 and 7 - 20. Section 706.02 of the MPEP, "Rejection on Prior Art", states in Section IV, "Distinction Between 35 U.S.C. 102 and 103", the requirements for establishing a *prima facie* case of anticipation under this statute, noting that "... for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly" (emphasis added). This requirement is also stated in MPEP §2131, "Anticipation -- Application of 35 U.S.C. 102(a), (b), and (e)", which states (in its final paragraph) "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference", quoting *Verdegaal*

Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), emphasis added. This final paragraph of MPEP §2131 also states “The elements must be arranged as required by the claim ...”, quoting *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990), emphasis added.

14. Furthermore, Appellants are entitled to have all words of their claimed invention considered when determining patentability. See Section 2143.03 of the MPEP, “All Claim Limitations Must Be Taught or Suggested”, referencing *In re Wilson*, 165 USPQ 494, 496 (C.C.P.A. 1970), which stated “*All words* in a claim must be considered in judging the patentability of that claim against the prior art.” (emphasis added).

15. The burden for rebutting a rejection under 35 U.S.C. 102 does not pass to Appellants until a *prima facie* case of anticipation has been made out. See *In re Bass*, 177 USPQ 178, 186 (C.C.P.A. 1973), which held:

From the evidence available to it, the initial burden of making out a *prima facie* case of prior invention is on the Patent Office. . . . When the Patent Office has made out a *prima facie* case of priority the burden would then shift to the applicant to rebut it.

Accordingly, Appellants respectfully submit that the burden has not passed. For the sake of expediency, Appellants will, however, provide a rebuttal herein of the analysis provided in the Office Action.

7.1) Rejection of Independent Claims 1, 13, and 14

16. Appellants respectfully submit that Liu fails to teach all limitations of their independent Claims 1, 13, and 14 -- and in particular, does not teach “each and every element” or “all words” of these claims. The Office Action analysis therefore fails to make out a *prima facie* case of anticipation, in violation of the above-quoted MPEP §706.02, §2131, and §2143.03, as will now be demonstrated.

17. Page 3, line 1 - p. 4, line 10 of the Office Action analyzes Appellants’ independent Claim 1. This analysis will now be described.

18. Claim 1, line 3 specifies “... a user who requests to access an aggregated service” (emphasis added). Page 3, line 4 of the Office Action cites Liu’s Abstract and col. 6, lines 39 - 56. Appellants have defined an “aggregated service” as “an aggregation of a plurality of sub-services” in their claim language on lines 5 - 6 of Claim 1 (emphasis added). Appellants find no discussion, nor any suggestion, in Liu’s Abstract of a user requesting to access this type of aggregated service. Instead, Liu’s Abstract simply talks about users accessing “multiple web sites, servers and domains” (Abstract, lines 2 - 3), with no suggestion that these web sites, server, and domains are in any way aggregated to form an aggregated service. Similarly, no teaching or suggestion of a user requesting to access an aggregated service is found in col. 6, lines 39 - 56 (which discuss users visiting web sites, and protecting user identities and personal information).

19. The element on lines 4 - 7 of Appellants’ independent Claim 1 specifies a number of

limitations not taught, or suggested, by Liu. Page 3, lines 8 - 9 of the Office Action cite Liu's **Fig. 10**, reference number **724** as teaching this element of Appellants' Claim 1, stating that reference number **724** includes "an aggregation of a plurality of sub-services". **Fig. 10** shows a plurality of systems **919**, **941**, and **955**, which together comprise aggregator system **724**. However, this element of Appellants' claim language specifies a number of limitations which have not been addressed in the Office Action. For example, no citation is provided for:

- "a network-accessible registry" (Claim 1, line 4);
- "a service description document" (Claim 1, line 4);
- "locating [a service description document] in a network-accessible registry" (Claim 1, line 4, emphasis added);
- "a provisioning interface for [an] aggregated service" (Claim 1, lines 4 - 5, emphasis added);
- "a service description document [that] specif[ies] a provisioning interface ..." (Claim 1, lines 4 - 5, emphasis added); or
- a "provisioning interface ... [that specifies] how to invoke identity functions of [an] aggregated service" (Claim 1, lines 6 - 7, emphasis added).

20. The element on lines 8 - 10 of Appellants' independent Claim 1 also specifies limitations not taught, or suggested, by Liu. In particular, this claim language specifies "analyzing [user] credentials by invoking ... identity functions, according to the specification thereof in the provisioning interface ..." (Claim 1, lines 8 - 9, emphasis added). Page 3, line 10 - p. 4, line 8 of the Office Action cites col. 16, line 59- of Liu as teaching these limitations (although Appellants

find the text quoted in the Office Action in col. 6, line 44 - col. 7, line 3). This quoted text discusses identifying a user with an “opaque visitor identifier”. However, Appellants find no teaching, nor any suggestion, in Liu of a provisioning interface which in any way specifies identity functions (and Appellants further note that their provisioning interface is specified in a “service description document” that is located “in a network-accessible registry”; as has been discussed above in paragraph 19, Liu has no teaching or suggestion of a provisioning interface with these limitations).

21. Accordingly, the Office Action fails to cite a reference that teaches each and every element of Appellants’ independent Claim 1, and fails to cite a references that teaches all words of this claim language.

22. Appellants’ independent Claims 13 and 14 specify analogous limitations to those which have been discussed, above, in paragraphs 18 - 20. The Office Action fails to provide any discussion of these independent claims. However, Appellants assert the same arguments presented in paragraphs 18 - 20, above, for the allowability of these claims over the teachings of Liu.

23. Appellants therefore respectfully submit that the Office Action fails to make out a *prima facie* case of anticipation as to independent Claims 1, 13, and 14, in violation of the above-quoted MPEP §706.02, §2131, and §2143.03. Without more, these claims are deemed patentable. See *In re Oetiker*, 24 USPQ 2d 1443, 1444 (Fed. Cir. 1992), which stated:

If the examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent.

7.2) Rejection of Dependent Claim 2

24. Page 4, lines 11 - 18 of the Office Action discuss dependent Claim 2. Appellants' dependent Claim 2 pertains to "an implementation of ... identify [note a typographical error; should say "identity"] functions". The quoted text of the Office Action discusses two "subsystems", one which generates "daily aggregates" and another which generates "the higher level of aggregation (aggregation over weeks, months, quarters or years ...)". This quoted text in no way pertains to identity functions (and Appellants note that the word "identity" has been used on line 11 of the Office Action, indicating that Appellants' intended claim language was analyzed, in spite of the typographical error in Claim 2).

25. Because the cited text fails to teach each and every element of Appellants' dependent Claim 2, and fails to teach all words of this claim language, Appellants respectfully submit that the Office Action fails to make out a *prima facie* case of anticipation as to dependent Claim 2, and without more, this claim is deemed patentable. (This dependent claim is also deemed patentable by virtue of the allowability of the independent claim from which it depends.)

7.3) Rejection of Dependent Claim 3

26. Page 4, line 19 - p. 5, line 9 of the Office Action discuss dependent Claim 3. Appellants' dependent Claim 3 pertains to "a local provisioning interface" of at least one sub-service (Claim

3, line 2). This analysis will now be discussed in more detail.

27. The cited text from col. 28, line 48 - col. 29, line 50 of Liu (cited for the first element of Claim 3) pertains to aggregating collections of event records (*i.e.*, aggregating data). Appellants respectfully submit that this cited text fails to teach anything about sub-services that have provisioning interfaces, including:

- provisioning interfaces that are “specified in a corresponding service description document” (Claim 3, lines 2 - 3, emphasis added); and
- provisioning interfaces that specify “how to invoke one or more identity functions of the sub-service” (Claims 3, lines 2 - 4, emphasis added).

28. The cited text from col. 6, line 39 - col. 7, line 20 and col. 67, line 1- of Liu (cited for the second through final element of Claim 3) also fails to teach anything about sub-services that have provisioning interfaces, and in particular, fails to teach provisioning interfaces that have identity functions (in contrast to Appellants’ claim language, which specifies “the identity functions in the provisioning interface ... are selected from the local provisioning interfaces”; Claim 3, lines 5 - 6).

29. Because the cited text fails to teach each and every element of Appellants’ dependent Claim 3, and fails to teach all words of this claim language, Appellants respectfully submit that the Office Action fails to make out a *prima facie* case of anticipation as to dependent Claim 3, and without more, this claim is deemed patentable. (This dependent claim is also deemed

patentable by virtue of the allowability of the independent claim from which it depends.)

7.4) Rejection of Dependent Claim 4

30. Dependent Claim 4 stands or falls with independent Claim 1, from which it depends. Thus, this claim is deemed allowable by virtue of the allowability of the independent claim.

7.5) Rejection of Dependent Claim 18

31. Page 6, lines 5 - 7 of the Office Action discuss dependent Claim 18. Appellants' dependent Claim 18 pertains to sub-services which have heterogeneous identity systems associated therewith ("at least two of the associated identity systems [of at least two of the sub-services] are heterogeneous"; Claim 18, lines 2 - 4). The Office Action cites col. 6, line 59 - col. 7, line 19 as teaching all limitations of this dependent claim. However, Appellants find no discussion in this text of heterogeneous identity systems, in contrast to the limitations on line 4 of Claim 18, or of "dynamically joining at least two of the heterogeneous identity systems", in contrast to the limitations on lines 5 - 6 of Claim 18.

32. Because the cited text fails to teach each and every element of Appellants' dependent Claim 18, and fails to teach all words of this claim language, Appellants respectfully submit that the Office Action fails to make out a *prima facie* case of anticipation as to dependent Claim 18, and without more, this claim is deemed patentable. (This dependent claim is also deemed patentable by virtue of the allowability of the independent claim from which it depends.)

7.6) Rejection of Dependent Claims 5, 7 - 12, 15 - 17, and 19 - 20

33. The Office Action fails to discuss dependent Claims 5, 7 - 12, 15 - 17, and 19 - 20.

Accordingly, a *prima facie* case of anticipation has not been made out as to these claims, and without more, these claims are deemed patentable. (These dependent claims are also deemed patentable by virtue of the allowability of the independent claim from which they depend.)

8) CONCLUSION

For the reasons set out above, Appellants respectfully contend that each appealed claim is patentable, and respectfully requests that Examiner's Final Rejection of appealed Claims 1 - 5 and 7 - 20 should be reversed.

Respectfully submitted,

A handwritten signature in black ink, reading "Marcia L. Doubet". The signature is written in a cursive, flowing style.

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CLAIMS APPENDIX

CLAIMS AS CURRENTLY PRESENTED:

1 Claim 1: A computer-implemented method of provisioning an aggregated service in a computing
2 network, comprising steps of:

3 obtaining credentials of a user who requests to access an aggregated service;

4 locating, in a network-accessible registry, a service description document specifying a
5 provisioning interface for the aggregated service, the aggregated service comprising an
6 aggregation of a plurality of sub-services and the provisioning interface specifying how to invoke
7 identity functions of the aggregated service;

8 analyzing the obtained credentials by invoking one or more of the identity functions,
9 according to the specification thereof in the provisioning interface, to determine whether the user
10 is authenticated for, and/or is authorized for, accessing the aggregated service; and

11 allowing the user to access the aggregated service only if the analyzing step has a
12 successful result.

1 Claim 2: The computer-implemented method according to Claim 1, wherein an implementation
2 of each of the identify functions of the aggregated service is provided by at least one of the sub-
3 services.

1 Claim 3: The computer-implemented method according to Claim 1, wherein:

2 at least one of the sub-services has a local provisioning interface, the local provisioning
3 interface specified in a corresponding service description document and comprising a

4 specification of how to invoke one or more identity functions of the sub-service; and
5 the identity functions in the provisioning interface of the aggregated service are selected
6 from the local provisioning interfaces; and further comprising the step of:
7 controlling access to each of the sub-services having the local provisioning interface,
8 further comprising the steps of:
9 determining whether the user is authenticated for, and/or authorized for, accessing
10 the sub-service by invoking at least one of the one or more identity functions of the sub-service,
11 according to the specification thereof in the local provisioning interface; and
12 allowing the user to access the sub-service only if the determining step has a
13 successful result.

1 Claim 4: The computer-implemented method according to Claim 3, wherein:

2 the step of obtaining credentials of the user also obtains sub-service credentials for at
3 least one of the sub-services having the local provisioning interface; and
4 the determining step uses the obtained sub-service credentials.

1 Claim 5: The computer-implemented method according to Claim 1, wherein:

2 one or more operations of at least one of the sub-services is access-protected;
3 the obtaining step further comprises obtaining, for at least one of the access-protected
4 operations, operation-specific credentials of the user; and further comprising the step of:
5 controlling access to each of at least one of the access-protected operations, further
6 comprising the steps of:

7 analyzing the obtained operation-specific credentials by invoking one of more of the
8 identity functions, according to the specification thereof in the provisioning interface, to
9 determine whether the user can access the access-protected operation; and
10 allowing the user to access the access-protected operation only if the step of analyzing the
11 obtained operation-specific credentials has a successful result.

Claim 6 (canceled)

1 Claim 7: The computer-implemented method according to Claim 1, wherein identity information
2 obtained by invoking one or more of the identity functions is programmatically relayed among at
3 least two of the sub-services of the aggregated service.

1 Claim 8: The computer-implemented method according to Claim 7, wherein the programmatic
2 relaying comprises sending a message which specifies the identity information in a header of the
3 message and which specifies a service request in a body of the message.

1 Claim 9: The computer-implemented method according to Claim 8, wherein the message is a
2 SOAP ("Simple Object Access Protocol") message.

1 Claim 10: The computer-implemented method according to Claim 1, wherein the service
2 description document is specified in a markup language.

1 Claim 11: The computer-implemented method according to Claim 10, wherein the markup
2 language is Web Services Description Language (“WSDL”).

1 Claim 12: The computer-implemented method according to Claim 2, wherein the network-
2 accessible registry is accessed using standardized messages.

1 Claim 13: A system for provisioning an aggregated service in a computing network, comprising:
2 means for defining a provisioning interface of the aggregated service;
3 means for specifying the provisioning interface in a service description document;
4 means for obtaining credentials of a user who requests to access an aggregated service;
5 means for locating, in a network-accessible registry, a service description document
6 specifying a provisioning interface for the aggregated service, the aggregated service comprising
7 an aggregation of a plurality of sub-services and the provisioning interface specifying how to
8 invoke identity functions of the aggregated service;
9 means for analyzing the obtained credentials by invoking one or more of the identity
10 functions, according to the specification thereof in the provisioning interface, to determine
11 whether the user is authenticated for, and/or is authorized for, accessing the aggregated service;
12 and
13 means for allowing the user to access the aggregated service only if the means for
14 analyzing has a successful result.

1 Claim 14: A computer program product for provisioning an aggregated service in a computing

2 network, the computer program product embodied on one or more computer-readable media and
3 comprising:

4 computer-readable program code means for obtaining credentials of a user who requests
5 to access an aggregated service;

6 computer-readable program code means for locating, in a network-accessible registry, a
7 service description document specifying a provisioning interface for the aggregated service, the
8 aggregated service comprising an aggregation of a plurality of sub-services and the provisioning
9 interface specifying how to invoke identity functions of the aggregated service;

10 computer-readable program code means for analyzing the obtained credentials by
11 invoking one or more of the identity functions, according to the specification thereof in the
12 provisioning interface, to determine whether the user is authenticated for, and/or is authorized
13 for, accessing the aggregated service; and

14 computer-readable program code means for allowing the user to access the aggregated
15 service only if the computer-readable program code means for analyzing has a successful result.

1 Claim 15: The method according to Claim 1, wherein an implementation of at least one of the
2 sub-services is located dynamically, at run-time.

1 Claim 16: The method according to Claim 7, wherein the identity information is initially
2 obtained as a result of the analyzing step.

1 Claim 17: The method according to Claim 7, wherein the identity information comprises an

2 authentication token generated by one of the invoked identity functions.

1 Claim 18: The method according to Claim 1, wherein:

2 at least two of the sub-services each have associated therewith an identity system for
3 access control thereto;

4 at least two of the associated identity systems are heterogeneous; and

5 at least one selected one of the identity functions of the aggregated service enables
6 dynamically joining at least two of the heterogeneous identity systems.

1 Claim 19: The method according to Claim 18, wherein the at least one selected identity function,
2 upon invocation, identifies the identity system that stores information pertaining to users of the
3 sub-service with which that identity system is associated.

1 Claim 20: The method according to Claim 19, wherein the dynamic joining is enabled by
2 relaying the identification of the identity system among the dynamically-joined identity systems.

EVIDENCE APPENDIX

Appellants, the Appellants' legal representative, and the assignee have no personal knowledge of evidence requiring separate identification herein as bearing on this Appeal.

RELATED PROCEEDINGS APPENDIX

No related proceedings are personally known to Appellants, the Appellants' legal representative, or the assignee.

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